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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,623	09/20/2001	Omar C. Baldonado	24717-708	4307

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EXAMINER	
VU, THONG H	
ART UNIT	**PAPER NUMBER**
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/960,623	BALDONADO ET AL.	
	Examiner	Art Unit	
	Thong H. Vu	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Claims 1-10,14-24 are pending. Claims 11-13 are canceled. Per the telephone communication on 3/15/07, applicant attorney,Thomas B. Havertsock confirmed Claims 12-13 are canceled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/02/07 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10,23-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Thomson et al [Thomson 6,189,044 B1].

3. As per claim 1, Thomson discloses A communications back-channel, for coordinating routing decisions, the communications back channel comprising:

a plurality of networking devices [Thomson, groups communication nodes, Fig 1];

a plurality of routing intelligence units, wherein each of the plurality of the plurality of routing intelligence units includes software programmed to control a distinct subset of the plurality of networking devices [Thomson, intelligent routing nodes, col 1 lines 47-55], each of the plurality of routing intelligence units further including:

one processes programmed to control the distinct subset of networking devices [Thomson, distribute optimal routing information to the nodes, includes sub-path, col 2 lines 48-61]; and

one coordination processes programmed to generate and directly exchange routing performance information with the plurality of routing intelligence units [Thomson, protocol exchanges, col 1 lines 27-39; transmitted directly, col 3 lines 20-35,52-60];

a mesh directly coupling the one or more coordination processes, wherein the one or more coordination processes are programmed to exchange only routing performance information over the mesh [Thomson, mesh network, col 3 lines 1-4].

4. As per claim 2, Thomson discloses the one or more processes programmed to control the distinct subset of networking devices are Border Gateway Protocol (BGP) sessions [Thomson, intelligent routing nodes, col 1 lines 47-55].

5. As per claim 3, Thomson discloses each of the routing intelligence units is a route-reflector client [Thomson, intelligent routing nodes, col 1 lines 47-55].

6. As per claim 4, Thomson discloses each of the distinct subset of networking devices is a route reflector to the route reflector client [Thomson, sub-path, col 2 lines 48-61].

7. As per claim 5, Thomson discloses the one or more coordination process in each of the routing intelligence units includes BGP sessions [Thomson, intelligent routing nodes, col 1 lines 47-55].

8. As per claim 6, Thomson discloses the BGP sessions in the one or more coordination processes of each of the routing intelligence units includes: at least one BGP process; and at least one BGP stack, such that the at least one BGP stack is programmed to exchange routing performance information between the routing intelligence unit and the at least one BGP process, and the at least one BGP process is programmed to exchange routing performance information with the plurality of routing intelligence units [Thomson, intelligent routing nodes, col 1 lines 47-55].

9. As per claim 7, Thomson discloses the at least one BGP stack is a route reflector client, and the at least one BGP process is a route reflector [Thomson, inter-routing domain, Fig 7b].

10. As per claim 8, Thomson discloses the routing performance information includes local path performance characteristics [Thomson, intra-routing domain, Fig 7a].

11. As per claim 9, Thomson discloses the routing performance information includes performance scores for routes [Thomson, minimizes bandwidth, col 4 lines 1-5].

12. As per claim 10, Thomson discloses the performance scores are included in a Local Preference field as inherent feature of intra-domain.

13. As per claim 24, Thomson discloses a first process from the one or more processes programmed to control the distinct subset of routing devices peers to one or more of the plurality of networking devices, to a second process from the one or more processes for controlling the distinct subset of networking devices, and to a routing infrastructure exchange [Thomson, sub-path, col 2 lines 48-61; intra and inter-domain, Fig 7A-B]].

14. As per claim 23, Thomson discloses A communications back-channel for coordinating routing decisions, the communications back channel comprising:

a plurality of routers [Thomson, routers, Fig 5];

a plurality of routing intelligence units, wherein each of the plurality of routing intelligence units includes software for controlling a distinct subset of the plurality of

routers [Thomson, intelligent routing nodes, col 1 lines 47-55], wherein each of the plurality of routing intelligence units further includes:

one or more processes for controlling the distinct subset of routers [Thomson, sub-path, col 2 lines 48-61]; and

one or more coordination processes for exchanging performance information among the plurality of routing intelligence units [Thomson, protocol exchanges, col 1 lines 27-39]; and

a mesh directly coupling each of the plurality of routing intelligence units to the remaining routing intelligence units, the plurality of routing intelligence units programmed to exchange only performance information over the mesh [Thomson, mesh network, col 3 lines 1-4; transmitted directly, col 3 lines 20-35,52-60].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 14-22 are rejected under 35 U.S.C. 102(e) as being unpatentable over Thomson et al [Thomson 6,189,044 B1] in view of Civanlar et al [Civanlar, 6,078,963].

15. As per claim 14, Thomson discloses A method of exchanging routing performance information amongst a plurality of decision makers, each decision maker controlling a distinct subset of a plurality of routers, wherein the plurality of decision

makers are in communication via a mesh dedicated to exchanging routing performance information, the method comprising:

asserting a first plurality of preferred routes for a first plurality of prefixes to the subset of routers [Thomson, distribute optimal routing information to the nodes, includes sub-path, col 2 lines 48-61 wherein the sub path included the prefixes]; and

sending a plurality of local performance scores generated from performance measurements (i.e.: bandwidth usage) for the first plurality of routes to the plurality of decision makers via the mesh [Thomson, mesh network, col 3 lines 1-4; minimizes bandwidth, col 4 lines 1-5].

However Thomson does not explicitly detail "concurrent with the asserting the first plurality of preferred routes",

It was well-known in the art that a intelligent router could perform a parallel or concurrent search the routing table as taught by Civanlar [Civanlar, col 6 lines 30-44]

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the concurrent searching or asserting the routing table as taught by Civanlar into the Thomson's apparatus in order to utilize the intelligent router's capabilities.

Doing so would provide a quick and efficient services for routing information via mesh network.

16. As per claim 15, Thomson-Civanlar disclose receiving a second plurality of routes for a second plurality of prefixes via the dedicated mesh [Thomson, mesh

network, col 3 lines 1-4].

17. As per claim 16,Thomson-Civanlar disclose receiving a plurality of performance scores for the second plurality of routes [Thomson, minimizes bandwidth, col 4 lines 1-5].

18. As per claim 17, Thomson-Civanlar disclose the plurality of performance scores are included in one or more Local Preferences fields in a BGP [Thomson, minimizes bandwidth, col 4 lines 1-5].

19. As per claim 18,Thomson-Civanlar disclose applying penalties to each of the plurality of performance scores as a design choice.

20. As per claim 19, Thomson-Civanlar disclose the asserting the first plurality of preferred routes is performed via a BGP feed to the subset of routers [Thomson, distribute optimal routing information to the nodes, includes sub-path, col 2 lines 48-61].

21. As per claim 20, Thomson-Civanlar disclose the plurality of local performance scores are sent via a BGP feed to the dedicated mesh [Thomson, minimizes bandwidth, col 4 lines 1-5; mesh network, col 3 lines 1-4].

22. As per claim 21, Thomson-Civanlar disclose the plurality of communication links are at least partially comprised of physical links between the plurality of routing intelligence units [Thomson, physical address, col 3 lines 30].

23. As per claim 22, Thomson-Civanlar disclose the plurality of communication links are at least partially comprised of logical links between the plurality of routing intelligence units [Thomson, routing logic, col 3 lines 62].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10,14-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja et al [Ahuja, 6,981,055 B1] in view of Masey [20010026537 A1].

24. As per claim 14, Ahuja discloses A method of exchanging routing performance information amongst a plurality of decision makers (i.e.: routers), each decision maker controlling a distinct subset of a plurality of routers, wherein the plurality of decision makers are in communication via a network (i.e.: a mesh) dedicated to exchanging routing performance information, the method comprising:

asserting a first plurality of preferred routes for a first plurality of prefixes to the subset of routers [Ahuja, the BGP, Fig 2; performance inference using prefixes to measure the number of subnetworks, col 7 lines 15-35];

concurrent with the asserting the first plurality of preferred routes [Ahuja, parallel or concurrent asserting the first plurality of preferred routes, col 16 lines 37-54], sending a plurality of local performance scores generated from performance measurements for the first plurality of routes to the plurality of decision makers via the network (i.e. mesh).

However Ahuja does not explicitly detail the network as a mesh;

In the same endeavor, Masey discloses a system and method for an intelligent routing and switching scheme utilize a routing protocol exemplified by BGP to exchange routing information between distinct ISPs [Masey, 0065] including a mesh configuration to communicate directly with every other node in the network [Masey, 0004]

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the routing between the plurality of parallel processing nodes via a mesh network as taught by Masey into the Ahuja's apparatus in order to utilize the routing process.

Doing so would optimize network resource location and provide the updated routing information to direct traffic over Internet.

25. As per claim 15, Ahuja-Masey disclose receiving a second plurality of routes for a second plurality of prefixes via the dedicated mesh [Ahuja, prefixes, col 7 lines 15-35].

26. As per claim 16, Ahuja-Masey disclose receiving a plurality of performance scores for the second plurality of routes [Ahuja, performance and other characteristics, col 8 lines 42-63].

27. As per claim 17, Ahuja-Masey disclose the plurality of performance scores are included in one or more Local Preferences fields in a BGP feed [Ahuja, performance and other characteristics, col 8 lines 42-63].

28. As per claim 16, Ahuja-Masey disclose applying penalties to the plurality of performance scores as a design choice.

29. As per claim 19, Ahuja-Masey disclose the asserting the first plurality of preferred routes is performed via a BGP feed to the subset of routers [Ahuja, the BGP, Fig 2; performance inference using prefixes to measure the number of subnetworks, col 7 lines 15-35].

30. As per claim 20, Ahuja-Masey disclose the plurality of local performance scores are sent via a BGP feed to the dedicated mesh [Masey, a mesh configuration to communicate directly with every other node in the network, 0004].

31. As per claim 21, Ahuja-Masey disclose the plurality of communication links are at least partially comprised of physical links between the plurality of routing intelligence

units [Masey, a mesh configuration to communicate directly with every other node in the network, 0004].

32. As per claim 22, Ahuja-Masey disclose the plurality of communication links are at least partially comprised of logical links between the plurality of routing intelligence units [Ahuja, BGP can be logically tied to each core router, col 18 lines 40-55].

33. As per claim 23, Ahuja-Masey disclose A communications back-channel for coordinating routing decisions, the communications back channel comprising:

a plurality of routers [Ahuja, the number of routers, col 9 line 61];

a plurality of routing intelligence units, wherein each of the plurality of routing intelligence units includes software for controlling a distinct subset of the plurality of routers [Masey, an intelligent routing and switching scheme, 0019], wherein each of the plurality of routing intelligence units further includes:

one or more processes for controlling the distinct subset of routers [Ahuja, subset, col 10 line 18]; and

one or more coordination processes for exchanging performance information among the plurality of routing intelligence units [Masey, exchange information, 0065]; and

a mesh directly coupling each of the plurality of routing intelligence units to the remaining routing intelligence units, the plurality of routing intelligence units

programmed to exchange only performance information over the mesh [Masey, exchange information, 0065].

34. As per claim 1, Ahuja discloses A communications back-channel (i.e.: back end), for coordinating routing decisions, the communications back channel comprising:

a plurality of networking devices [Ahuja, clusters, col 6 lines 39-56; routers, switches, Fig 18];

a plurality of routing intelligence units (i.e.: intelligent disk systems), wherein each of the plurality of the plurality of routing intelligence units includes software programmed to control a distinct subset of the plurality of networking devices [Ahuja, routers, switches, Fig 18; the routing optimization components, col 19 line 35-col 20 line 25], each of the plurality of routing intelligence units further including:

one processes programmed to control the distinct subset of networking devices [Ahuja, subsystem, col 17 lines 1-30]; and

one coordination processes programmed to generate and directly exchange routing performance information with the plurality of routing intelligence units [Ahuja, traffic exchanges between the NSPs, col 18 lines 10-26; propagate the routes directly, col 18 line 51];

However Ahuja does not teach

a mesh directly coupling the one or more coordination processes, wherein the one or more coordination processes are programmed to exchange only routing performance information over the mesh.

In the same endeavor, Masey discloses a system and method for an intelligent routing and switching scheme utilize a routing protocol exemplified by BGP to exchange routing information between distinct ISPs [Masey, 0065] including a mesh configuration to communicate directly with every other node in the network [Masey, 0004]

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the routing between the plurality of parallel processing nodes via a mesh network as taught by Masey into the Ahuja's apparatus in order to utilize the routing process.

Doing so would optimize network resource location and provide the updated routing information to direct traffic over Internet.

35. As per claim 2, Ahuja-Masey disclose the one or more processes programmed to control the distinct subset of networking devices are Border Gateway Protocol (BGP) sessions [Ahuja, BGP, Fig 2].

36. As per claim 3, Ahuja-Masey disclose each of the routing intelligence units is a route-reflector client [Ahuja, a route reflector, col 17 lines 9-37].

37. As per claim 4, Ahuja-Masey disclose each of the distinct subset of networking devices is a route reflector to the route reflector client [Ahuja, a route reflector, col 17 lines 9-37].

38. As per claim 5, Ahuja-Masey disclose the one or more coordination process in each of the routing intelligence units includes BGP sessions [Ahuja, BGP, Fig 2].

39. As per claim 6, Ahuja-Masey disclose the BGP sessions in the one or more coordination processes of each of the routing intelligence units includes: at least one BGP process; and at least one BGP stack, such that the at least one BGP stack is programmed to exchange routing performance information between the routing intelligence unit and the at least one BGP process, and the at least one BGP process is programmed to exchange routing performance information with the plurality of routing intelligence units [Ahuja, BGP format and policy, col 18 lines 27-67; performance table, col 5 line 27].

40. As per claim 7, Ahuja-Masey disclose the at least one BGP stack is a route reflector client, and the at least one BGP process is a route reflector [Ahuja, a route reflector, col 17 lines 9-37].

41. As per claim 8, Ahuja-Masey disclose the routing performance information includes local path performance characteristics [Ahuja, performance monitor and measurements, col 6 lines 12-col 7 line 13].

42. As per claim 9, Ahuja-Masey disclose the routing performance information includes performance scores for routes [Ahuja, monitoring performance and other

characteristics, col 8 lines 42-63].

43. As per claim 10, Ahuja-Masey disclose the performance scores are included in a Local Preference field as inherent feature of performance information.

44. As per claim 24, Ahuja-Masey disclose a first process from the one or more processes programmed to control the distinct subset of routing devices peers to one or more of the plurality of networking devices, to a second process from the one or more processes for controlling the distinct subset of networking devices, and to a routing infrastructure exchange [Ahuja, the number of subnetworks, col 7 lines 15-35].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thong Vu*, whose telephone number is (571)-272-3904. The examiner can normally be reached on Monday-Thursday from 6:00AM- 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Lynn Feild*, can be reached at (571) 272-2092. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thong Vu
Primary Examiner

THONG VU
PRIMARY PATENT EXAMINER